

WHAT IS CLAIMED IS:

1. An image forming apparatus comprising:  
image forming means capable of forming an image  
with a hypochromic toner and a hyperchromic toner of  
5 a substantially same hue;  
a first toner containing portion containing  
said hypochromic toner;  
a second toner containing portion containing  
said hyperchromic toner; and  
10 density detecting means which detects a density  
of an image formed with said hypochromic toner and  
said hyperchromic toner.
2. An image forming apparatus according to  
15 claim 1, wherein said density detecting means detects  
a density of an image formed with said hypochromic  
toner.
3. An image forming apparatus according to  
20 claim 1, wherein said density detecting means detects  
a density of an image formed with said hyperchromic  
toner.
4. An image forming apparatus according to any  
25 of claims 1 to 3, wherein an image forming condition  
for an image to be formed by said image forming means  
on a transfer member is controlled according to a

result of detection of said density detecting means.

5. An image forming apparatus according to claim 4, wherein, at an increase of gradation data  
5 for an image to be formed on said transfer member, said hypochromic toner is employed with an increasing recording rate while said hyperchromic toner is not employed until said gradation data reaches a  
predetermined value, and said hyperchromic toner is  
10 mixed, with an increasing recording rate, with said hypochromic toner beyond said predetermined value.

6. An image forming apparatus according to claim 1, wherein, in said image formed by said  
15 hypochromic toner and said hyperchromic toner and detected by said density detecting means, said hyperchromic toner has a recording rate smaller than a recording rate of said hypochromic toner.

20 7. An image forming apparatus according to claim 1, further comprising:  
an image bearing member;  
wherein said image detected by said density  
detecting means is formed on said image bearing  
25 member.

8. An image forming apparatus according to

claim 1, further comprising:

an intermediate transfer member to which an  
image is transferred from an image bearing member;

wherein said image detected by said density  
5 detecting means is formed on said intermediate  
transfer member.

9. An image forming apparatus according to  
claim 4, wherein said image detected by said density  
10 detecting means is formed on said transfer member.

10. An image forming apparatus according to  
claim 9, wherein said density detecting means detects  
a density of said image fixed on said transfer member.

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11. An image forming apparatus according to  
claim 4, wherein said image forming condition is at  
least one of a latent image forming condition, a  
developing condition, a transfer condition and a  
20 fixing condition.

12. An image forming apparatus according to  
claim 4, wherein, in case a result of detection of  
said density detecting means is not a desired value,  
25 said image forming condition is so controlled as to  
form an image with a proportion of the hypochromic  
toner and the hyperchromic toner, determined

according to predetermined data indicating a relationship between gradation data and a toner proportion in an image.

5           13. An image forming apparatus according to claim 4, wherein, in case a result of detection of said density detecting means is not a desired value, a remaining amount of toner in at least one of said first toner containing portion and said second toner  
10 containing portion is brought to a predetermined amount.

          14. An image forming apparatus according to claim 4, wherein, in changing an input data  $D_{in}$  from  
15 a minimum value to a maximum value for varying the gradation level from a minimum level to a maximum level, said image forming condition is controlled in such a manner that a lightness  $L^*$  of said image satisfies a relation:

20            $L^*(D_{in1}) > L^*(D_{in2})$

in case  $D_{in1} < D_{in2}$  and that a change  $\Delta L^*$  in the lightness corresponding to a change in said gradation data remains within a predetermined range.

25           15. An image forming apparatus according to claim 1, wherein said hypochromic toner and said hyperchromic toner has a color which is at least one

of magenta, cyan and yellow.

16. An image forming apparatus comprising:

image forming means capable of forming an image  
5 with a hypochromic toner and a hyperchromic toner of  
a substantially same hue;

a first toner containing portion containing  
said hypochromic toner;

a second toner containing portion containing  
10 said hyperchromic toner; and

density detecting means which detects a density  
of a first image formed with said hypochromic toner  
and a density of a second image formed with said  
hyperchromic toner.

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17. An image forming apparatus according to  
claim 16, wherein an image forming condition for an  
image to be formed by said image forming means on a  
transfer member is controlled according to a result  
20 of detection of said density detecting means.

18. An image forming apparatus according to  
claim 17, wherein, at an increase of gradation data  
for an image to be formed on said transfer member,  
25 said hypochromic toner is employed with an increasing  
recording rate while said hyperchromic toner is not  
employed until said gradation data reaches a

predetermined value, and said hyperchromic toner is mixed, with an increasing recording rate, with said hypochromic toner beyond said predetermined value.

5           19. An image forming apparatus according to claim 16, further comprising:  
            an image bearing member,  
            wherein said image detected by said density  
            detecting means is formed on said image bearing  
10     member.

            20. An image forming apparatus according to claim 16, further comprising:  
            an intermediate transfer member to which an  
15     image is transferred from an image bearing member,  
            wherein said image detected by said density  
            detecting means is formed on said intermediate  
            transfer member.

20           21. An image forming apparatus according to claim 17, wherein said image detected by said density  
            detecting means is formed on said transfer member.

            22. An image forming apparatus according to  
25     claim 21, wherein said density detecting means  
            detects a density of said image fixed on said  
            transfer member.

23. An image forming apparatus according to claim 17, wherein said image forming condition is at least one of a latent image forming condition, a developing condition, a transfer condition and a  
5 fixing condition.

24. An image forming apparatus according to claim 17, wherein, in case a result of detection of said density detecting means is not a desired value,  
10 said image forming condition is so controlled as to form an image with a proportion of the hypochromic toner and the hyperchromic toner, determined according to predetermined data indicating a relationship between gradation data and a toner  
15 proportion in an image.

25. An image forming apparatus according to claim 17, wherein, in case a result of detection of said density detecting means is not a desired value,  
20 a remaining amount of toner in at least one of said first toner containing portion and said second toner containing portion is brought to a predetermined amount.

25 26. An image forming apparatus according to claim 17, wherein, in changing an input data  $D_{in}$  from a minimum value to a maximum value for varying the

gradation level from a minimum level to a maximum level, said image forming condition is controlled in such a manner that a lightness  $L^*$  of said image satisfies a relation:

5            $L^*(Din1) > L^*(Din2)$

in case  $Din1 < Din2$  and that a change  $\Delta L^*$  in the lightness corresponding to a change in said gradation data remains within a predetermined range.

10           27. An image forming apparatus according to claim 16, wherein said hypochromic toner and said hyperchromic toner has a color which is at least one of magenta, cyan and yellow.